

## REMARKS

Claims 1–6 are pending, with Claims 3-5 having been withdrawn from consideration. Claims 1, 2, and 6 were rejected under 35 U.S.C. §103(a) as being unpatentable over JP 2001-93795 (JP ‘795) in view of Hisai et al. (U.S. 2003/192,686). Claims 1, 2, and 6 were rejected under 35 U.S.C. §103(a) as being unpatentable over JP 2003-53741 (JP ‘741) in view of Hisai et al. (U.S. 2003/192686). Claims 1, 2, and 6 were rejected under 35 U.S.C. §103(a) as being unpatentable “any of the prior art as applied...above”, and further in view of Foglesonger et al. (U.S. Patent 4,998,584) or Flanigan et al. (U.S. Patent 6,081,414). Claim 2 was rejected under 35 U.S.C. §103(a) as being unpatentable “any of the prior art as applied...above”, and further in view of JP 4-338242 (JP ‘242).

Initially, please note that applicants respectfully submit that it was improper for the Examiner to allege a lack in the duty of disclosure regarding JP ‘795. It is noted that there is no duty to disclose what is well known in the art. The Examiner makes reference to an “uncanny resemblance” in the hollow bores, even though the bores in both the present application and JP ‘795 both resemble a cavity that is well known in the art, for example, Foglesonger et al. Depicting this element of a heating plate in this manner is well known and used in the art. Applicants and their representatives are well aware of the duty to disclose art that is known to the Applicants and material to patentability when it is not cumulative to information already of record or being made of record in the application. It is respectfully requested that the Examiner refrain from making such allegations in future Office Actions.

Regarding the rejection of independent Claim 1, the Examiner sets forth three (3) separate rejections, and states that JP ‘795 in view of Hisai et al., JP ‘741 in view of Hisai et al., and “any of the prior art as applied...above” in view of Foglesonger et al. or Flanigan et al., renders the claim unpatentable. JP ‘795 discloses a method and equipment for heating a wafer and method and equipment for baking photoresist film on a wafer; Hisai et al. discloses a heat processing device; JP ‘741 discloses a heat leveling

apparatus; Foglesonger et al. discloses a heat exchanger; and, Flanigan et al. discloses an apparatus for improved biasing and retaining of a workpiece in a workpiece processing system.

Claim 1 of the present application is directed to a cooling apparatus for a wafer baking plate for achieving a uniform temperature distribution and dramatically reducing cooling time, thereby increasing wafer product yield. Specifically, a hollow bore is formed in the heat transfer plate of the wafer baking plate and is partially filled with a liquid working fluid. A cooling pipe is laid along the hollow bore in the heat transfer plate, for circulating a cooling medium.

With respect to the §103(a) rejection based on JP '795 and Hisai et al., it is acknowledged that the Examiner has a clear understanding of the benefits of the present invention, evidenced by the repetition in the Office Action of some of the advantages of the present invention, while also inventing after-the-fact. The Examiner states, "If applicant contests this logic, please explain where else could one put the cooling pipe..." Applicants do contest this logic. As set forth in Hisai et al. and pointed out by the Examiner, the cooling pipe can be placed cutting across the division walls, thus, as in Hisai et al., compromising the strength of the device, which in turn actually supports the position that the placement of the "cooling pipe laid along the hollow bore in the heat transfer plate" as recited in Claim 1, is clearly non-obvious. Based on at least the foregoing, withdrawal to the §103(a) rejection based on JP '795 and Hisai et al. is respectfully requested.

With respect to the §103(a) rejection based on JP '741 and Hisai et al., the Examiner again repeats some of the advantages of the present invention, while again inventing after-the-fact. More efficient cooling is in fact an advantage stated in the present application. Again, as set forth in Hisai et al. and pointed out by the Examiner, the cooling pipe can be placed cutting across the division walls, thus, as in Hisai et al., compromising the strength of the device, which in turn actually supports the position that the placement of the "cooling pipe laid along the hollow bore in the heat transfer plate" as

recited in Claim 1, is clearly non-obvious. Based on at least the foregoing, withdrawal to the §103(a) rejection based on JP '795 and Hisai et al. is respectfully requested.

With respect to the §103(a) rejection based on “any of the prior art as applied...above” in view of Foglesonger et al. or Flanigan et al., the Examiner states that these references render the elements of Claim 1 unpatentable. First, the Examiner states that he does not believe that it is necessary to cite additional art at this time; but, since the Examiner has not yet made out a prima facie case of obviousness, Applicants respectfully disagree with the Examiner. Claim 1 recites that the cooling pipe is laid along the hollow bore and that the hollow bore is partially filled with the liquid working fluid. As is clearly set forth in the specification, the liquid working fluid is used to transfer heat to the baking plate, and the cooling pipe is used to remove heat from the plate. In Foglesonger et al. both the tube and the boron nitride are both needed to carry heat in only one direction. In Flanigan et al. the channel that carries the cooling tube is not filled with any material. Therefore, as none of the references teach or disclose “a hollow bore formed in the heat transfer plate and partially filled with a liquid working fluid; and a cooling pipe laid along the hollow bore in the heat transfer plate, for circulating a cooling medium” as recited in Claim 1, the rejections must be withdrawn. Based on at least the foregoing, withdrawal of the §103(a) rejection of Claim 1 is respectfully requested.

Independent Claim 1 is believed to be in condition for allowance. Without conceding the patentability per se of dependent Claims 2 and 6, these are likewise believed to be allowable by virtue of their dependence on their respective amended independent claims. Accordingly, reconsideration and withdrawal of the rejections of dependent Claims 2 and 6 is respectfully requested.

Accordingly, all of the claims pending in the Application, namely, Claims 1, 2 and 6, are believed to be in condition for allowance. Should the Examiner believe that a telephone conference or personal interview would facilitate resolution of any remaining matters, the Examiner may contact Applicant's attorney at the number given below.

Respectfully submitted,

A handwritten signature in black ink, appearing to read "Paul J. Farrell", written over a horizontal line.

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